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PTO/SB/21 (08-03) modified
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APH 2100

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/671,038
Filing Date	September 27, 2000
First Named Inventor	Nicholas Paluzzi
Art Unit	Khanh Nmn Dang
Examiner Name	2111
Total Number of Pages in This Submission: 20	Attorney Docket Number: EMC2-081PUS

ENCLOSURES (Check all that apply)

- [x] Fee Transmittal Form
  - [x] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers (for an Application)
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s)_____
- [ ] After Allowance Communication to Technology Center (TC)
- [ ] Appeal Communication to Board of Appeals and Interferences
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Firm or Individual	Richard M. Sharkansky Reg. No. 25,800 Daly, Crowley & Mofford, LLP
Signature	
Date	4/8/04

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 330

Complete if Known	
Application Number	09/671,038
Filing Date	September 27, 2000
First Named Inventor	Nicholas Paluzzi
Examiner Name	Khanh Nmn Dang
Art Unit	2111
Attorney Docket No.	EMC2-081PUS

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METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit Account Number: 50-0845

Deposit Account Name: Daly, Crowley & Mofford, LLP

The Director is authorized to: *(check all that apply)*

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims		Fee from below	Fee Paid
Total Claims	-20** = 0	X		= 0
Independent Claims	- 3** = 0	X		= 0
Multiple Dependent				=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) Appeal Brief 330

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 330

SUBMITTED BY				(Complete *(if applicable)*)	
Name (Print/Type)	Richard M. Sharkansky	*Registration No. (Attorney/Agent)*	25,800	*Telephone*	781.401.9988 ext. 23
Signature				*Date*	4-8-04

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APR 12 2004
PATENT & TRADEMARK OFFICE

#10
4-20-04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/671,038	Confirmation No. : 5490
Applicant	:	Nicholas Paluzzi.	
Filed	:	September 27, 2000	
T.C./A.U.	:	2111	
Examiner	:	Khanh Nmn Dang	
Docket No.	:	EMC2-081PUS	
Customer No.	:	022494	

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APPEAL BRIEF

(1) Real party in interest.

The real party of interest is EMC Corporation a Massachusetts Corporation having a principal place of business at Hopkinton, MA

(2) Related appeals and interferences.

No pending patent application currently under appeal is related to the subject patent.

(3) Status of claims.

Claim 1 is pending and stands under final rejection.

(4) Status of amendments. A statement of the status of any amendment filed subsequent to final rejection.

The amendment filed after final rejection has been entered.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

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(5) Summary of invention.

Referring now to FIG. 18, the details of the CPU bus arbiter 414 are shown in more detail to include a priority/fairness controller 1002, a control 1004, and an enable network 1006 all arranged as shown to provide CPU bus address bus grant signals CPU_BG_, DMAXMT_BG_,DMAREC_BG_, and DPDMA_BG_ for the CPU 310, DMA REC 424, DMA XMIT 418, and, Data Pipe DMA unit 403, and data bus grant signals CPU_DBG_, DMAREC_DBG_, DMAXMT_DBG_, and DPDMA_DBG_ for the CPU 310, DMA XMIT 418, DMA REC 424; and, Data Pipe DMA 403. Such bus grant signals are produced selectively in response to bus requests signals CPU_BR_, DMAREC_BR_, DMAXMT_BR_, and DPDMA_BR_ from the CPU 310, DMA REC 424; DMA XMIT 418, and, Data Pipe DMA 403, respectively. The details of the priority/fairness controller will be described in connection with FIG. 18. Suffice it to say here, however, that the controller 1002 is a decoder which implements a "Truth-Table", such "Truth Table" in turn implements a priority/fairness algorithm based on the following principles:

A. The CPU 310 is parked on the address portion of the CPU bus 317; that is, the CPU 310 is granted the CPU address bus 317 by default;

B. The address portion of the CPU bus 317 will be granted to the candidate with the highest priority ***if such candidate requests the address bus (BR_) subject to conditions C and D below, the priority order being as follows:***

1. CPU 310 (i.e., highest priority);
2. DMA REC 424;
3. DMA XMIT 418;
4. Data Pipe DMA 403 (i.e., lowest priority),

C. When multiple candidates are requesting the CPU bus 317, the "highest priority" requesting candidate will not be granted the bus if such candidate was the recipient of the previous address bus grant (BG_), subject to condition D below.

D. Each candidate shall have an independent "wait count" that indicates that the candidate has waited for n assertions of BG_ to other bus candidates without being granted

the address bus BG_ itself. If a candidate's predetermined wait count limit is reached, that such candidate receives the next address bus grant BG_. However, if multiple candidates simultaneously reach their respective "wait count" limit, then the address bus grant BG_ will be granted in accordance with the priority:

1. CPU 310 (i.e., highest priority)
2. DMA REC 424;
3. DMA XMIT 418;
4. Data Pipe DMA 403 (i.e., lowest priority).

(6) Issues. A concise statement of the issues presented for review.

Is claim 1 anticipated by U. S. Patent No. 5,754,800, Lentz et al., under 35 USC 102?

(7) Grouping of claims.

There is only one claim.

(8) Argument.

The essential issue here is whether, in the default case when no candidate is requesting the bus, the action of "***assigning a priority***", as in Lentz et al., is a different action than actually "***granting access to the bus***", as claimed.

In the art, the action of granting bus access to a given candidate in the absence of a bus request by *any* of the candidates is referred to as "parking" the given candidate on the bus. The significant difference between "parked" and "non-parked" arbitration schemes is well known in the art and is described, by example, pages 9-13 and 9-14 of the MPC7450 RISC Microprocessor Family User's Manual by Motorola previously submitted.

Thus, the claim states that one of the candidates ***is granted*** access to the bus, *even in the absence of any bus request (the "default")*. Thus, even assuming argunendo that Lentz et al. ***assigns a highest priority*** to a candidate in the absence of any bus request, as alleged by the examiner, the applicant takes the process ***one step further*** by actually ***granting access to the bus*** to the predetermined one of the candidates. The examiner has not pointed out where

Lentz et al. describes this further granting step. The applicant again requests that the examiner point out the column and line number where Lentz et al. allegedly states that ***the highest priory candidate is actually granted access to the bus in the absence of a bus request.***

The Examiner's position is as follows:

(1) "Lentz et al., discloses granting default access to the bus to a predetermined one of the candidates (in Lentz et al., the predetermined one of the candidates is the one that is assigned a highest priority when no requests from other candidates are made. ... it is clear from Lentz et al. that each candidate is assigned a predetermined intrinsic priority, and arbitration is based on a fixed or dynamic priority scheme). "

(2) Also, contrary to Applicants argument, not just priority is assigned to a predetermined candidate but also bus access is granted to the predetermined candidate. There is no reason to assign priority to a candidate without giving it access to the bus. See at least example Fig. 3 and column 9, line 58 to column 10, line 17."

Considering each of the Examiner's points above:

(1) "Lentz et al., DOES NOT disclose ***granting default*** access to the bus to a predetermined one of the candidates. Further, ***assigning*** priority is not the same act as ***granting*** access to the bus. Lentz ***does not*** GRANT access to the bus in a DEFAULT SITUATION.

(2) With regard to the Examiners' statement that "There is no reason to assign priority to a candidate without giving it access to the bus", such statement disregards the situation where the arbiter can be designed to take no action (gives no bus grant) after ***assigning*** priority when there is an absence of any bus requests, this is a "non-parked" situation. Thus, it does not necessarily follow that a grant to the bus occurs in the absence of a request, as inferred by the Examiner. The Examiner refers to "Fig. 3 and column 9, line 58 to column 10, line 17", yet these lines explicitly describe a case where an entity ***is requesting*** the bus. Hence, Lentz et al. is not describing the default case where ***no entity is requesting*** the bus.

In view of the foregoing, it is Application's position, that the step of ***GRANTING DEFAULT access to the bus to a predetermined one of the candidates*** is ***not disclosed in, nor is it inherent in,*** Lentz et al.

Respectfully submitted,

Date: 4-8-04

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Appendix.

1. A bus arbitration method for granting access to a common bus having coupled thereto a plurality of candidates desiring access to such bus, one of such candidates being granted access to such bus in accordance with the a method comprising:

granting default access to the bus to a predetermined one of the candidates or, in the absence of such default granting,

granting access to the bus to one of the candidates in accordance with predetermined priority criteria, such grant being modified when a plurality of such candidates request the bus, such grant to the bus then being such that the one of the candidates requesting the bus having the highest priority in the predetermined priority criteria not be granted the bus if such candidate was the recipient of the previous bus grant and with each one of the requesting plurality of candidates having a predetermined independent "wait count limit" indicating that such requesting one of the plurality of candidates has waited for n assertions of a grant to the bus to other requesting candidates without being granted the address bus, where n is a predetermined integer, and wherein if one of such candidate's "wait count limit" is reached, such candidate receives the bus grant, except that if plural requesting candidates simultaneously reach their respective "wait count limit", then the bus grant will be granted in accordance with the predetermined priority criteria.